MANCHESTER PUBLIC SCHOOLS

DISTRICT EDUCATIONAL TECHNOLOGY PLAN

2009 - 2012



Adopted by the Manchester Board of Education: May 26, 2009

Cover Page EDUCATIONAL TECHNOLOGY PLAN – July 1, 2009-June 30, 2012

District/Agency:	Manchester Public Schools	
LEA Code:	077	
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Signature of Superintendent or Director:	Kairle M aulell	Date: May 26, 2009
Date Submitted to Board of Education:	May 11, 2009	
Date Approved by Board of Education:	May 26, 2009	

For RESC/SDE Use Only:

RESC Regional Reviewer:	Dougles Cury	Date: 4-15-09
RESC Recommendation for Approval:	Yes / No / Conditional	Date:
CSDE Authorization:		Date:

Technology Plan Preparation Check-Off Page / Table of Contents

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	Appendix I: Technology Design Standards	TBD
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	Optional elements to be included in the district plan but not submitted to CREC	
	Dr. Bol Lease May 26, 2009	
Signat	ature of Authorized LEA Agent Date	

LEA Federal Grant Program Compliance Form

Manchester Public Schools
Local Education Agency (LEA) submitting this plan.
Developing a comprehensive technology plan based on the educational goals of the school system will ensure that the most appropriate technologies are effectively infused into your instructional and/or administrative programs. Thorough planning also ensures that all parties have equitable access and achieve the greatest benefit from routine use of educational technology. The comprehensive technology plan should demonstrate clear targets for technology use, spell out desired goals for learners, create visions for future directions, build "buy-in" from stakeholders, and demonstrate to those who might provide funding that a district or charter holder is ready to act.
School districts, consortia or charter schools (LEAs) who apply for technology funding through any Federal grant program are required to have developed a comprehensive, three-year plan, which outlines how the agency intends to utilize and integrate educational technology.
The applying agency (check all that apply)
is compliant with the provisions of the Children's Internet Protection Act (CIPA) [20 U.S.C. § 6777]
will be CIPA compliant by this date
has applied for E-Rate Funding for FY 2008.
The LEA's comprehensive technology plan must be approved by the local board of education.
Date the plan was approved: May 26, 2009
OR
Date the plan is to be submitted for board approval:
Certified by: **May 26, 2009 Signature of Superintendent or Director* Date
Kathleen M. Ouellette, Ed.D Printed Name of Superintendent or Director

LEA Profile

The CSDE Technology Plan Template requires this information to provide a "snapshot" of the Manchester Public Schools that will help planners and reviewers to understand areas of need. This information also will assist the CSDE in establishing priorities in the provision of resources to districts. The CSDE is particularly interested in each district's capability to access resources that are connected to the Connecticut Education Network (CEN). The questions about technological literacy and professional development allow the federal government to monitor compliance with certain requirements of the Children's Internet Protection Act and of No Child Left Behind legislation.

LEA NAME: Manchester Public Schools	
How many Grade 8 students were evaluated for technological literacy, based on your district's standards, during the 2007-08 school year?	484 484
Based on that evaluation, how many of those students were considered technologically literate? (This number is a retrospective estimate based on technology benchmarks administered in 2007-2008.)	436
How many hours of technology related professional development were offered to certified educators in 2007-08? (Includes all unique workshop hours offered at no cost to certified district educators from which certified district educators earned Educational Technology CEUs during 2007-2008.	75
How many hours of technology related professional development were offered to administrators in 2007-08? (A CEU bearing workshop on data analysis offered specifically for administrators at no cost to the administrator.)	3
What fraction of your certified staff in Grades K-8 does your district consider technologically literate? (For the purposes of this measurement, technological literacy is defined as the ability to communicate by email, create and revise a Word Processor document, find information on the Internet, download and open documents and files.)	469 469
What fraction of your certified staff in Grades 9-12 does your district consider technologically literate? (For the purposes of this measurement, technological literacy is defined as the ability to communicate by email, create and revise a Word Processor document, find information on the Internet, download and open documents and files.)	<u>202</u> 202

W	hen filling out the table below, please consider the following conditions:
•	the number and % of each grade level of students that can have high-speed Internet access at the same time;
•	that students are grouped in clusters of no more than thirty and no less than ten; and

that students remain in their own school.	
Maximum number of Grade 4 students who could be accommodated under the above conditions.	351 535
Percentage of Grade 4 students who could be accommodated under the above conditions (number accommodated/total number of Grade 4 students).	66%
Maximum number of Grade 6 students who could be accommodated under the above conditions.	<u>214</u> 461
Percentage of Grade 6 students who could be accommodated under the above conditions (number accommodated/total number of Grade 6 students).	46%
Maximum number of Grade 8 students who could be accommodated under these conditions.	<u>212</u> 432
Percentage of Grade 8 students who could be accommodated under the above conditions (number accommodated/total number of Grade 8 students).	49%
Maximum number of Grade 10 students who could be accommodated under the above conditions.	415 488
Percentage of Grade 10 students who could be accommodated under the above conditions (number accommodated/total number of Grade 10 students).	85%

Technology Planning Committee

The Manchester Public Schools' District Technology Advisory Committee is a standing committee that represents the various stakeholders in the educational enterprise including administrators, teachers, information systems professionals, the town, and the community. As a standing committee, the District Technology Advisory Committee meets regularly during each school year to develop, implement, and evaluate the District Educational Technology Program.

Beginning in September 2008, the Committee developed the components of the Plan during its monthly meetings including the Educational Technology Vision Statement, the needs assessment, the goals/objectives, and the three year projection for the technology budget. In addition, the high school's NEASC self-study reports were examined for comments related to educational technology. An initial draft was then compiled, completed, and edited by the K-12 Supervisor of Science and Technology and returned to the District Technology Advisory Committee for review, comment, and revision. The resulting draft report was then distributed to the Library Media Specialists, the Information Systems Department, the Technology Specialists, and the district's senior Administrators for a final round of review and comments. In March 2009, the final draft was submitted to Douglas Casey, CREC Director of Technology Services, who, on behalf of the State Department of Education, verified the plan was complete. The verified plan will then be submitted to the Manchester Board of Education. The adopted plan must be submitted to the State Department of Education prior to June 15, 2009.

Member	Title	Constituency Represented
Dr. Kathleen M. Ouellette	Superintendent of Schools	All Stakeholders including BOE
Ms. Patricia F. Brooks	Assistant to the Superintendent for Finance and Management	School District
Dr. Ann Richardson	Assistant Superintendent for Curriculum and Instruction	School District
Dr. Bob Pease	K-12 Supervisor Science & Technology	Students and Staff Pre K - 12
Lisa Plavin	K-12 Instructional Media Coordinator	Library/Media Specialists
Gail Myers	Information Systems Supervisor	Information Systems District Wide
Mike Pennington	Information Systems Technician	Information Systems
Ryan Gohla	Information Systems Technician	Information Systems
Eric Bundy	Information Systems Technician	Information Systems High School
Jen Jalbert	Elementary Media Specialist	Elementary Educators
Chris Casey	Technology Ed Instructional Leader	High School Educators
Shelly Matfess	Director of Pupil Personnel Services	Special Education Students & Teachers
Edward Dillon	Pupil Personnel Services Supervisor	Special Education Students & Teachers
Ronald Masse	Deputy Director Information Systems	Town Telecommunications
Jack McCoy	Town Chief Information Officer	The Municipality and Community
Donna Fitzgerald	Principal Martin School	Town-wide Administrators
Jerry Bujaucius	Community Representative	The Community
Technology Specialists	One Technology Specialist per each school	All Schools in the District
Board of Ed. Members	Board of Education Members	Bd. of Ed./Community/Parents/Students

Educational Technology Vision Statement

Manchester Public Schools Mission Statement 2008-2012

Pride in Excellence

The mission of the Manchester Public Schools is to engage all students in the highest quality 21st century education preschool through graduation. District and school-wide practices will be consistently improved upon so that practices will not benefit some and disadvantage others. Through an active partnership with students, school personnel, families and community, the Manchester Public Schools will create safe, inclusive schools where equity is the norm and excellence is the goal.

Manchester Public Schools **Educational Technology Vision Statement**

Manchester Public Schools technology vision is to improve student performance by comprehensively integrating educational technology into all aspects of the educational process in order to improve students' achievement, develop students' technology literacy skills, increase student motivation, facilitate communication, and to effectively administer organizational operations. Implementation of the technology vision across the district and within each school is guided by dynamic, long-range, and systemic district-wide and site-based technology plans developed by educational technology advisory committees. Educators use technology to collect, analyze, and interpret achievement data to develop excellence in teaching and learning and to encourage learning from birth through graduation and beyond. Technology is used to facilitate communication and collaboration to achieve an active partnership of students, school personnel, families and the community. All students and educators should be technologically literate. All students, parents, and educators should have universal access to appropriate technology in school and/or at home. This educational technology vision is consistently and widely communicated to educators, parents, and the community.

The use of educational technology will improve student achievement, develops students' research and information fluency, and empower students by helping them to attain the knowledge, skills, and values needed for success.. Assistive technology will improve the lives of individuals with disabilities by supporting individual needs and respect for differences. Instruction will become more media-rich and visual. Communication and collaboration will be improved enabling all educators to become part of a global learning community. Distance and virtual learning will be used to connect students and educators to remote classrooms. Administrators will improve organizational efficiency and effectiveness. Parents will be able to access real-time information about their students. Town residents and the community will be provided with students who graduate to "become responsible citizens who will be successful in a rapidly changing world."

To achieve this educational technology vision, the district needs:

- Administrative leadership to support and organize the implementation of the technology plan.
- A commitment by the community to consistently provide the funding needed for technology infrastructure, personnel, digital resources, and staff development.
- On-going, consistent access to technology-related professional development.
- A high-speed, high-volume telecommunications network that connects all of the district's computers to each other and to the Internet.
- Safe and inclusive schools in which all classrooms are equipped with appropriate computer technology with the capacity for whole-class visual displays.
- Equitable access to appropriate technology for all students, parents, and educators in and outside of school.

- A complete and accurate inventory of the district's technology equipment and software to track and guide technology planning and replacement cycles.
- A current, standards-based, consistent K-12 Technology Literacy Curriculum to develop the skills needed to empower students by helping them to attain the knowledge, skill, and values needed for success and to support the comprehensive integration of technology into instruction.
- Sufficient technical support staff with the skills required to provide assistance for maintaining and using technology.
- Policies, procedures, standards, and accountability measures that support the safe and effective use of digital resources for learning and in district school operations.
- Integrated, interoperable data systems that automate the exchange, analysis, and communication of information to improve organizational effectiveness in achieving the district mission.

Material drawn from: "ISTE | National Educational Technology Standards." Ed. Lajeane Thomas. International Society for Instructional Technology. 10 Mar. 2009 http://www.iste.org/AM/Template.cfm?Section=NETS.

Needs Assessment

This section describes Manchester's **current technology status** by addressing specific topics in five categories: curriculum integration, professional development, equitable use of technology, infrastructure and telecommunications services, and administrative needs.

Needs Assessment Category & Topic	District's Current Technology Status
Curriculum Integration	Curriculum Integration
The needs assessment should consider:	• The district revises and updates it curriculum on a five year cycle. Nearly
☑ Current curriculum strengths and	all K-12 curriculum documents have been revised during the past four
weaknesses and the process used	years. The strengths and weaknesses of the curriculum are evaluated based
to determine these strengths and	on their inclusion of both content and skills, on the analysis of student
weaknesses;	achievement data on state assessments and on district-developed standards-
	based benchmark assessments. The Information Technology Curriculum
	needs to be updated and aligned with current standards for information and
	technology skills. The district needs to increase the amount of instruction on
	information and technology skills and to increase the integration of
	technology into instruction.
☑ How curriculum strategies are	 Each curriculum is purposefully aligned with the relevant state standards
aligned to state standards;	during the curriculum development /revision process and the relevant state
	standards are directly embedded in the curriculum documents.
☐ The current procedures for using	 Procedures that use technology to improve Manchester's assessed
technology to address any	curriculum include: analyzing student achievement data using CT Reports,
perceived curriculum weaknesses;	Student Plus, Pinnacle, and Excel; designing, administering, and analyzing
	standards-based district benchmark assessments, common formative and
	summative assessments.
	Procedures that use technology to improve Manchester's written curriculum
	include: on-line research of state standards, instructional strategies, and
M How togehows integrate technology	 instructional activities; webinars for teacher in-service. In addition to the student uses described immediately below, teachers
✓ How teachers integrate technology into their lessons - including ways	integrate technology into their lessons and improve Manchester's instructed
technology is presently used for	curriculum using: teacher-developed SmartBoard lessons; creation of
entire classroom and for small	differentiated lessons; use of on-line instructional, informational, and visual
group instruction; and	resources (especially for science and social studies standards); document
group man netton, and	cameras to display student work and reference material; distance-learning;
	on-line science video demonstrations and lab simulations; programs to
	develop students' skills: CMT Prep Fun, Read 180, Lexia, Renzulli
	Reading, ReadAbout, Reading A-Z, Bailey's Book House, Millie's Math
	House, Trudy's Time & Place, Sammy's Science House; and lessons on
	ethical, appropriate, and safe on-line behavior.
☑ How students use technology -	 Students use technology to: research information (on-line catalogs,
including ways students presently	information databases, and search engines); create documents and displays
use technology for purposes	(word processors or publishers); create and display presentations
beyond practice of skills.	(presentation software); organize, analyze, chart, graph, and display data
	and finances (spreadsheets, databases, statistics); capture, edit, and display
	photographic and video images (digital cameras, scanners, photo-editors,
	video editors), compose music (keyboard labs); create drawings (drawing
	software); create podcasts; design and create objects (computer-aided
	design, computer-aided manufacturing); enter digital information
	(keyboarding skills); program computers to accomplish a goal
	(programming languages); design web pages; collect measurement data
	(digital sensors); and create robots.

Needs Assessment Category & Topic	District's Current Technology Status
Professional Development	Professional Development
The needs assessment should consider: ✓ The process the LEA uses for assessing the technology professional development needs of teachers, administrators and noncertified staff;	■ Technology professional development needs are presently assessed by the school Technology Specialist and the school Library Media Specialist. Beginning this year, each school will formally assess its technology professional development needs on an annual basis as part of the update of its School Educational Technology Plan. The technology professional development needs of administrators are assessed using district surveys. The district needs to develop a process for meeting the technology professional development needs of the non-certified staff.
✓ The technology professional development activities that have been offered to teachers; and	■ In-district technology professional development activities are provided during district-wide professional development days, during school using substitutes to provide release-days, and after school. Opportunities and processes for Professional Development in Educational Technology at no cost to teachers are posted on the Educational Technology Department's webpage on the district website. These opportunities include in-district workshops, CREC workshops, NEAT workshops, and workshops offered by other Connecticut approved CEU providers.
✓ How the effectiveness of the professional development activities will be assessed.	 All participants in each district professional development activity are asked to complete an Evaluation Survey.
Equitable Use of Technology	Equitable Use of Technology
The needs assessment should consider:	1 GV
 ✓ The availability of technology to students and staff in the district – all students should have equal access to the technology; ✓ The amount of time available for 	 Technology availability for staff: → Administrators: All have a networked desktop and/or laptop computer with Microsoft Office Pro or MacOffice before, during, and after school. → Teachers (preschool): All have access to a networked desktop and/or laptop computer with Microsoft Office Pro or MacOffice before, during,
the use of technology by students and staff; and	 and after school. → K-12 teachers: All have a networked desktop and/or laptop computer with Microsoft Office Pro or MacOffice before, during, and after school. → Noncertified staff: Depending on their job function, some noncertified have a networked desktop before, during, and after school. Technology availability for students: → Students (preschool): All have access to a shared networked computer during school. → Students (K-5): All have access to shared networked computers both in the classroom and in computer labs during school. → Students (6): All have access to networked computers both in the classroom and in computer labs during school with some access possible after school. → Students (7-8): All have access to shared networked computers both in the classroom and in computer labs before, during, and after school. → Students (high school): All have access to shared networked computers both in the classroom and in computer labs before, during, and after school.
	→ Students (with disabilities): All have access to networked computers with appropriate adaptive software. Depending on the nature of the disability, students with disabilities may be loaned a computer.

Needs Assessment Category and Topic	District's Current Technology Status
Equitable Use of Technology (cont'd)	Equitable Use of Technology (continued)
The needs assessment should consider:	
\square A description of the types of assistive	■ The assistive technology software currently provided to Manchester's
technology tools that are provided for	students with disabilities includes:
students with disabilities where	Assignment Organizer- Secondary tool that allows for
necessary/applicable.	scheduling/planning of school and personal information on the computer
	Clicker 5- Elementary writing program using picture symbols
	(prewriting, writing, reading, word processing)
	Co-Writer - Predicted word program (writing, spelling, word processing)
	Discover - Elementary and secondary all-in-one package that provides
	universal access to the computer for those with physical disabilities
	Draft Builder - Elementary and secondary writing software for planning
	and organization (writing, word processing)
	Dragon Naturally Speaking - Secondary speech to text program that
	allows students to produce written work without physically writing or
	typing (writing)
	Dynavox - Preschool, elementary and secondary speech
	output/communication software program
	Earobics- Preschool, elementary and secondary programs that teach
	language development, reading and spelling through phonics principles
	Inspiration - Graphic organizing for visual learning (prewriting, writing)
	Intellitools Classroom Suite- Elementary and secondary comprehensive
	program that may be used by physically or cognitively challenged
	students. It has an adapted keyboard, speech output, scanning, and can
	encompass all academic areas
	Kidspiration - Elementary organizing and idea development using visual
	learning (prewriting, writing, word processing)
	Kurzweil- Text to speech (reading, spelling, word processing)
	Math Pad- Elementary electronic math program that allows students to
	perform problems on the computer (math)
	PixWriter- Elementary writing program using picture symbols
	(prewriting, writing, reading, word processing)
	Write Out Loud – Elementary and secondary text to speech tool
	(writing)
	The assistive technology equipment currently provided to Manchester's
	students with disabilities includes:
	Alphasmart (Neo and 3000)- portable word processor. Text can be
	uploaded onto a computer.
	Environmental Control Units (PowerLink)- Enables any electronic device to be converted to switch access
	Go Talk speech output devices- communication devices
	Portable voice recorder- Supports those with physical writing difficulties
	Switch Toys - electronic toys with switch capabilities for the physically disabled
	Switches (Jelly Bean, Step by Step)- provide access for physically
	disabled individuals to operate electronic devices
	Touch Window- direct access to computer screen by touch
	Touch window- unect access to computer screen by touch

Needs Assessment Category and Topic

Infrastructure and Telecommunication

The needs assessment should consider:

- ✓ The current technology infrastructure of each school in your district explaining the type of data and video networking and Internet access that is available;
- ☑ The effectiveness of the present infrastructure and telecommunication services that have been provided by the district; and
- ✓ How E-Rate has allowed the district to improve or increase its technology infrastructure.

Administrative Needs

The needs assessment should consider:

- ☑ How do administrative (certified and non-certified) staff use technology, including accessing data for decisionmaking, student information system reporting, communication tools, information gathering, and record keeping; and
- ☑ The professional development opportunities that are available to administrative staff.

District's Current Technology Status

Infrastructure and Telecommunication

- Virtually all computers in every school are networked. All Board of Education and municipal facilities are connected to each other and to the Internet by a secure fiber-optic high-speed broadband network. This network has the capacity to support streaming video. The District is gradually implementing IP Telephony in school buildings as part of any construction or renovation projects funded by the capitol budget. There is a need to develop a plan to upgrade network switches. In some cases, there is a need to address the location and/or number of network ports.
- The present infrastructure and telecommunications network is very stable and reliable as evidenced by the absence of down-time and the lack of network speed issues that are attributable to the structure of the network.
- The funding provided by the E-Rate program improves the district's ability to update and improve its educational technology infrastructure.

Administrative Needs

- Administrative staff use technology to communicate (Word, PowerPoint, Excel, Groupwise, Acrobat), for research (Internet Explorer, Firefox, Safari), to track and analyze student data (Student PLUS, SWIS, Pinnacle, Excel, IEPPLUS, Access), to control, track, and analyze financial and personnel information (Munis, Excel), track food services finances (Meal Tracker Pro), security (WinDSX, digital video cameras), and library circulation information (Destiny).
- All of the in-district and out-of-district technology professional development opportunities available to teachers are also available to administrators. In addition, the district offers two educational technology workshops each year that are specifically designed to meet the needs of administrators. Assistant principals can not attend these two workshops as they are scheduled during the school day.

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Goals and Objectives

State of Connecticut Educational Technology Goals Manchester Public Schools Educational Technology Objectives

The seven technology goals in this plan are mandated by the CSDE Technology Plan Template. These "State Educational Technology Goals" were created by members of the State Educational Technology Directors Association (SETDA) to ensure that district technology plans address all of the technology reporting requirements of No Child Left Behind (NCLB), the Children's Internet Protection Act (CIPA), and the E-Rate funding provisions of the Federal Telecommunications Act of 1996.

The objectives and implementation strategies of this plan were written by Manchester's Technology Advisory Committee. While many of Manchester's objectives are required by the CSDE Technology Plan Template, Manchester's objectives and implementation strategies often go beyond the template's reporting requirements. Thus, Manchester's Educational Technology Plan provides more breadth and depth than what is required by the CSDE Technology Plan Template.

Goal 1: Improve student academic achievement through the use of technology in elementary and secondary schools.

- 1A. All students will have educational opportunities to achieve academic success through the infusion of technology into curriculum and instruction.
- 1B. By the end of eighth grade, all students will achieve and maintain technological literacy as defined by the *National Educational Technology Standards for Students*. (*Identical to Objective 4C*)
- 1C. By the end of high school, all students will achieve and maintain technological literacy as defined by the *National Educational Technology Standards for Students. (Identical to Objective 4D)*
- 1D. The District will provide technology resources that reflect scientifically-based best practices for improving student achievement.
- 1E. The District will encourage the use of technology-based distance learning for the delivery of specialized or rigorous academic courses and curricula.

Goal 2: Ensure that all educators are proficient in the use and integration of technology and ongoing professional development activities are provided.

- 2A. The District will provide all educators and staff with incentives to become technologically literate.
- 2B. The District will monitor staff technology literacy and use these data when planning technology professional development.
- 2C. The District will provide technology professional development that is consistent with research on effective teaching and learning.
- 2D. The District will provide technology professional development on the use of technology to improve student achievement.

Goal 3: Ensure that all PreK-12 educational institutions have the capacity, infrastructure, staffing, and equipment to meet academic and business needs for effective and efficient operations.

- 3A. The District will ensure all facilities meet minimum standards of technology infrastructure and provide connectivity to the Connecticut Education Network (CEN).
- 3B. The District will provide continued maintenance and support of its existing infrastructure and end-user technology.
- 3C. When acquiring new technology, the District will maintain technological interoperability.

Goal 4: Ensure that PreK-12 resources are available for all students, regardless of race, ethnicity, income, geographical location, or disability, so they can become technologically literate by the end of eighth grade and achieve their academic potential.

- 4A. The District will provide students with special needs access to technology as appropriate to meet their needs.
- 4B. The District will encourage the use of technology to support equity and reduce performance gaps based on race, national origin, sex and physical or mental disability.
- 4C. By the end of eighth grade, all students will achieve and maintain technological literacy as defined by the National Educational Technology Standards for Students. (*Identical to Objective 1B*)
- 4D. By the end of high school, all students will achieve and maintain technological literacy as defined by the National Educational Technology Standards for Students. (*Identical to Objective 1C*)
- 4E. The District will provide equitable access to technology for all students, teachers, staff and administrators.

Goal 5: Develop a continuous process of evaluation and accountability for the use of educational technology as: a teaching and learning tool, a measurement and analysis tool for student achievement, and a fiscal management tool.

- 5A. The District will review and update this Technology Plan on a yearly basis as appropriate.
- 5B. The District will provide access for students to take on-line tests as they are implemented by the CSDE.
- 5C. The District will provide technology professional development for educators on the use of assessment data for improving instruction and learning.
- 5D. The District will provide the technology resources needed to meet its administrative needs.
- 5E. The District will effectively utilize technology resources to meet its administrative needs.
- 5F. The District will identify and implement technology initiatives to improve student achievement.

Goal 6: Develop a schema of current and future financing requirements to support the LEA's Technology Plan.

- 6A. The District will provide the funding required to implement this Technology Plan.
- 6B. The District will develop and maintain policies and procedures for the maintenance of hardware, software, infrastructure and security.
- 6C. The District will provide the resources required to keep its technology updated.

Goal 7: Develop a telecommunications services plan that will support both instructional needs and administrative requirements.

- 7A. Provide a secure high speed broadband fiber optic network that connects all municipal and Board of Education facilities to each other and to the Internet.
- 7B. Expand the use of IP Telephony from its current use at the Manchester Police Department, Manchester Public Libraries, Manchester High School, and Bennet Academy to other Board of Education and municipal facilities.
- 7C. Support the Town Information Systems Department's efforts to provide town residents with free access to the Internet and to technology.
- 7D. The Town Information Systems Department seeks to implement fiber optic connections among the networks of municipalities and school districts to create opportunities for regional collaboration and efficiencies.

Goal 1: Improve student academic achievement through the use of technology in elementary and secondary schools.

The CSDE Technology Plan Template requires the objectives of the plan that support this goal:

- Describe how the District will ensure all students have educational opportunities to achieve academic success through proven strategies of researched-based successful practices;
- o Describe how the District will address the National Educational Technology Standards for Students;
- Describe how the District will provide resources that reflect scientifically-based research and best practices focused on improving student achievement; and
- Describe how the District will encourage the development and utilization of innovative strategies for the delivery of specialized or rigorous academic courses and curricula through the use of technology. Include any plans to promote technology-based distance learning opportunities to meet the educational needs of those who have limited access to such courses and curricula due to geographical isolation or insufficient resources.

Objective	Strategy	Accountability Measure	Timeline
	• Update and revise the Technology Literacy Curriculum so it shows alignment with state and national educational technology standards, follows the District's curriculum template, and identifies opportunities for the integration of technology into curriculum and instruction. Strategy also supports Objective 1D	Copy of updated and revised Technology Literacy Curriculum.	2009 - 2012
1A. All students will have educational opportunities to achieve academic success through the infusion of technology into curriculum	 Provide students with opportunities to develop and demonstrate proficiency on the Manchester K-12 Information Technology Literacy through specific instructional activities embedded in the various curricula that use the Technology Tools identified by the Partnership for 21st Century Skills. 	 Copies of student work for instructional activities that develop student technology literacy. 	2009 - 2012
and instruction.	 Develop and implement Assured Technology Experiences beginning with grades 4 to 8. 	 Copies of Assured Technology Experiences. Copies of student work for Assured Technology 	2009 - 2012
	 Strategy also supports Objective 4E. Continue to provide equal access to technology for all students and educators by equitably allocating funds from the District Technology Equipment Budget. 	Experiences. • Accurate technology inventory data, student enrollment data, and educator staffing data to calculate ratios showing equitable access to technology for all students and educators.	Ongoing
(Identical to Objective 4C) 1B. By the end of eighth grade, all students will achieve and maintain technological literacy as defined by the National Educational Technology Standards for Students.	All grade eight students will continue to complete the Technology Literacy Benchmarks activities to develop and assess students' technology literacy.	 Copies of student work for the grade eight Technology Literacy Benchmarks activities. 	Ongoing

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Objective	Strategy	Accountability Measure	Timeline
(Identical to Objective 4D) 1C. By the end of high school, all students will achieve and maintain technological literacy as defined by the National Educational Technology Standards for Students.	 Require for graduation from Manchester High School that all students demonstrate Technology Competency by completing a major performance project of several weeks duration in which they use appropriate technology to solve an authentic complex problem. Continue to offer numerous high school courses that teach appropriate use of technology and provide the opportunity to complete a major performance project in which students use appropriate technology to solve an authentic complex problem. 	 Digital copies of completed student projects in which students used appropriate technology to solve an authentic complex problem. List of courses in MHS Student/Parent Handbook that satisfy the technology graduation requirement. 	Ongoing
1D. The District will provide technology resources that reflect scientifically-based best practices for improving student achievement.	 Strategy also supports Objective 2B Each school will have a technology committee that will develop a technology plan, advise the principal on technology purchases, and identify needs for in-service in educational technology. Strategy also supports Objective 1A Provide students with opportunities to develop and demonstrate proficiency on the Manchester K-12 Information Technology Literacy through specific instructional activities embedded in the various curricula that use the Technology Tools identified by the Partnership for 21st Century Skills. Maximize the number of classrooms with 	 instructional activities that develop student technology literacy. Copies of student work for instructional activities that develop student technology literacy. Annually report inventory of 	2009 - 2012 2009 - 2012 Ongoing
1E. The District will encourage the use of technology-based distance learning for the delivery of specialized or rigorous academic courses and curricula.	 At the high school, the guidance department and technology committee will investigate the feasibility of and infrastructure needed for distance learning for home-bound instruction, credit recovery, and specialized courses. The District Supervisor of Educational Technology will seek to expand the use of distance-learning for the delivery of inservice training to faculty and staff. Washington Media Arts Magnet School will continue to offer distance learning experiences within the confines of available resources. 	digital projection devices by district and by building. Look for evidence of distance learning in: HS Program of Studies. HS Transcripts. Annual listing of In-service Opportunities. Annual log of distance learning activities using the Washington Media Arts Magnet School Tandberg Video Conference Lab.	Ongoing Ongoing 2009 - 2012

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Goal 2: Ensure that all educators are proficient in the use and integration of technology and ongoing professional development activities are provided.

The CSDE Technology Plan Template requires the objectives of the plan that support this goal:

- Describe how the District will provide all teachers, (including library-media specialists, bilingual and ESL teachers, special and alternative education teachers) non-instructional staff, principals and administrators, incentives to become technologically competent;
- Describe how the District will monitor staff technological literacy. Indicate how the LEAs monitoring of technological literacy impacts professional development;
- Describe how the District will provide specific research-based professional development opportunities to all staff;
- Describe how the District will provide specific professional development opportunities to all staff that demonstrates the research connecting student achievement and the use of technology.

Objective	Strategy	Accountability Measure	Timeline
2A. The District will provide all educators and staff with incentives to become technologically literate.	 Teachers and administrators are required to earn technology CEUs for certification. Subject to the availability of funds, the District will offer or fund training in technology literacy at no cost to staff. Develop technology training program for non-certified staff. 	 Annually track CEU certificates earned with an ID Number including code 302 (Training in the use of computers in the classroom). Annual list of technology training opportunities offered to non-certified staff. 	2009 - 2012
2B. The District will monitor staff technology literacy and use these data when planning technology professional development.	 Strategy also supports Objective 1D Each school will have a technology committee that will develop a technology plan, advise the principal on technology purchases, and identify needs for technology professional development. Technology Specialist and Library Media Specialists will survey their schools, and administrators will be surveyed each year to identify areas of need for technology professional development. Develop an annual program of district-wide in-house technology professional development. 	 Annual copies of School Technology Plans including technology professional development needs. Copies of annual survey data. Annual list of technology professional development offerings. 	2009 - 2012 2009 - 2012 2009 - 2012
2C. The District will provide technology professional development that is consistent with research on effective teaching and learning.	Base professional development on research on effective teaching and learning and student achievement data.	Annual list of technology professional development offerings.	Ongoing
2D. The District will provide professional development on the use of technology to improve student achievement.	Provide technology professional development training on technology that has been identified as effective at improving student achievement.	Annual list of technology professional development offerings.	2009 - 2012

Goal 3: Ensure that PreK-12 educational institutions have the capacity, infrastructure, staffing and equipment to meet academic and business needs for effective and efficient operations.

The CSDE Technology Plan Template requires the objectives of the plan that support this goal:

- Describe how the District will ensure that all facilities meet minimum standards of technology infrastructure and provide connectivity to the Connecticut Education Network (CEN);
- Describe how the District will ensure continued maintenance and support of existing infrastructure and end user technology; and
- Describe the specific provisions the District intends to make for the interoperability of the technologies. (Interoperability is the capability of the technology to be acquired to function compatibly with technologies that exist or will be acquired in the near future at the local and state level.)

Objective	Strategy	Accountability Measure	Timeline
	• Specify in all bid documents, procurement		2009
	plans and contractor directives for new	showing the standards required to	-
	technologies the standards required to	successfully connect to and interact with	2012
	successfully connect to and interact with	the district's installed technologies over the district network.	
	the district's installed technologies over the district network.	the district network.	
	• Continue the cooperative efforts between	The reliable and stable connection to	Ongoing
	the Town and the Board of Education to	CEN using our existing network as	8 8
3A. The District will	keep the district network operational at its	measured by the absence of down-time.	
ensure all facilities	maximum potential.	·	
meet minimum	 Develop, update, and implement 	 Copy of technology purchasing 	Ongoing
standards of	purchasing standards for all technology	standards.	
technology	that is to be connected to the district		
infrastructure and	network and the Connecticut Education		
provide connectivity to the Connecticut			
	Strategy also supports Objectives 4E, 5D, and 6A		Ongoing
(CEN).	• Continue to implement Board of	• Funding levels in Adopted Budget.	ongoing
(CEIV).	Education Policy 3511 Educational	T undring levels in Adopted Budget.	
	Technology Maintenance that sets the		
	minimum funding levels for the District		
	Technology Equipment Budget at 0.5% of		
	the total approved local Schools.		
	• Continue to filter all student access to the		
	Internet for content that is obscene, child		
	pornography, or harmful to minors.		

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Objective	Strategy	Accountability Measure	Timeline
3B. The District will provide continued maintenance and	 Use work order system to document, track, and prioritize requests for technology support and to develop an ongoing knowledge base of solutions to common problems and patterns in problems. Strategy also supports Objective 3B. Maintain technician to computer ratio at the computer ratio at the	 Response time and incident closure reports from technology support work order system. Periodic surveys and questionnaires to measure user satisfaction with technology support and maintenance. 	Ongoing
support of its existing infrastructure and end-user	 Maintain technician-to-computer ratio at the state and national standards to ensure sufficient and timely technology maintenance and support. 	 Annually compute the computer-to-technician ratios by building assignments and for the district. Maximum uptime for infrastructure and end user technology. 	Ongoing
technology.	• Keep support contracts up to date for critical hardware, software, and fiber net.	• Copy of support contracts.	Ongoing
	 Contact the Connecticut Education Network to request increased bandwidth. 	Copy of request for increased bandwidth.	2009 - 2012
	 Strategy also supports Objective 5E The district and town will pursue automated information interoperability among its financial data base (currently 	Copy of an interoperability plan that tracks the degree of interoperability among the various databases. The	2009 - 2012
3C. When acquiring new technology, the District will maintain	Munis), personnel data base (currently Munis), email database (currently Groupwise), public directory information, security information database (currently WinDSX), cafeteria system (currently Meal Tracker Pro), student information system (currently StudentPLUS), grade book (currently Pinnacle), special education database (currently IEPPLUS), emergency notification systems (currently under consideration), and library database (currently Destiny). Strategy also supports Objective 5E	purpose of this plan is to identify the stake holders for software purchases or upgrades and inform any software purchase or upgrade. The plan and relevant stakeholders will be consulted. After each software purchase or upgrade, the plan will be updated and distributed to the individuals responsible for all of the databases.	
technological interoperability.	• The district will pursue the use of information interoperability between the personnel data base (currently Munis) and the email database (currently Groupwise) to automate the formation of shared email	The availability of shared email groups based on personnel data base.	2009 - 2012
	groups. • Ensure that all software purchases are SIF (School Interoperability framework) compliant. Strategy also supports Objective 5D	• Certificates of SIF (School Interoperability framework) compliance for all software purchases.	Ongoing
	 Maintain improved inventory procedures for equipment and software to inform the allocation of resources for new technology and the removal of outdated technology. 	Technology equipment and software inventory data reports.	Ongoing

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Goal 4: Ensure that PreK-12 resources are available for all students, regardless of race, ethnicity, income, geographical location or disability, so they can become technologically literate by the end of eighth grade and achieve their academic potential.

The CSDE Technology Plan Template requires the objectives of the plan that support this goal:

- Describe how the District will ensure that students with special needs will have those needs addressed through technology;
- Describe how the District will encourage innovative practices to support equity and reduce performance gaps based on race, national origin, sex and physical or mental disability;
- Describe how the District will ensure that all students will become technologically literate by the end of eighth grade and how the District will ensure that all students maintain or increase their technology literacy and improve their academic achievement; and
- o Describe how the District will ensure equal access to all students, teachers, staff and administrators.

Objective	Strategy	Accountability Measure	Timeline
4A. The District will provide students	 Provide assistive technology to students with disabilities when appropriate. Identify key personnel to assume lead role in 	 IEPs and 504 plans. District-designed data collection tool. List of key personnel for 	On going 2009
	planning and implementing the use of assistive technology. • Send school teams to assistive technology	assistive technology implementation. • List of assistive technology	2012 Ongoing
with special needs access to technology as appropriate to meet their needs.	workshops at the New England Assistive Technology (NEAT) Resource and Education Center, Capital Region Education Council (CREC), and the State Education Resource Center (SERC).	professional development attendance. • Assistive Technology Committee participation	
	 Provide professional development in the use of assistive technology equipment, applications, and software. 	 Annual list of technology professional development offerings. 	2009 - 2012
	 Incorporate into technology professional development the research on strategies to reduce the achievement gap with an emphasis on developing cultural competency. 	 Annual list and descriptions of technology professional development offerings. 	Ongoing 2009 -
4B. The District will encourage the use of	Work to make computers available to students before or after school to improve student achievement.	• List of computers available to students before/ after school.	2010
technology to support equity and reduce performance gaps based on race, national origin, sex and physical or mental disability.	 Improve the student-to-computer ratio in all schools. 	• Report on student-to-computer ratios.	Ongoing 2009 -
	 Work with the town to provide technology training for parents as part of an adult education program. Continue to cooperate with the Town Information 	 List of any available technology adult education. Status of free or affordable 	2010 Ongoing
	Systems Department in their efforts to provide town residents free or affordable access to the	access to the Internet and technology.	
	 Internet and technology. If funding allows, loan laptops or word processors to our neediest students for use at home. 	 Availability of laptop or word processor loans to our neediest students. 	As funding allows

Objective	Strategy	Accountability Measure	Timeline
(Identical to Objective 1B) 4C. By the end of eighth grade, all students will achieve and maintain technological literacy as defined	 All grade eight students will continue to complete the Technology Literacy Benchmarks activities to develop and assess students' technology literacy. Update and revise the Technology Literacy Curriculum so it shows alignment with state and national educational technology standards, follows the District's curriculum template, and identifies opportunities for the integration of technology into curriculum and instruction. 	 Copies of student work for the grade eight Technology Literacy Benchmarks activities. Copy of updated and revised Technology Literacy Curriculum. 	Ongoing 2009 - 2010
by the <i>National</i> Educational Technology Standards for Students.	Develop and implement Assured Technology Experiences beginning with grades 4 to 8.	 Copies of Assured Technology Experiences. Copies of student work for Assured Technology Experiences. 	2009 - 2012
(Identical to Objective 1C) 4D. By the end of high school, all students will achieve and maintain technological literacy as defined by the National Educational Technology Standards for Students.	 Require for graduation from Manchester High School that all students demonstrate Technology Competency by completing a major performance project of several weeks duration in which they use appropriate technology to solve an authentic complex problem. Continue to offer numerous high school courses that teach appropriate use of technology and provide the opportunity to complete a major performance project in which students use appropriate technology to solve an authentic complex problem. 	 Digital copies of completed student projects in which students used appropriate technology to solve an authentic complex problem. List of courses in MHS Student/Parent Handbook that satisfy the technology graduation requirement. 	Ongoing
	total approved local school budget. Strategy also supports Objective 1A	• Funding levels in Adopted Budget.	Ongoing
for all students, teachers, staff and administrators.	Continue to provide equal access to technology for all students and educators by equitably allocating funds from the District Technology Equipment Budget.	 Accurate technology inventory data, student enrollment data, and educator staffing data to calculate ratios showing equitable access to technology for all students and educators. 	Ongoing

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Goal 5: Develop a continuous process of evaluation and accountability for the use of educational technology as a teaching and learning tool, a measurement and analysis tool for student achievement, and a fiscal management tool.

The CSDE Technology Plan Template requires the objectives of the plan that support this goal:

- o Describe how the District will evaluate and make changes to this plan on a yearly basis;
- o Describe how the District will provide access for students to take on-line tests, when available;
- Describe how the District will provide professional development to enable teachers and administrators to use data from the CMTs, CAPT and district- or classroom-based formative and summative assessments to improve instruction;
- o Describe how the District will create, maintain or improve electronic resources to ensure administrative needs are addressed and solutions developed; and
- o Describe how the District will implement technology initiatives to improve student achievement.

Objective	Strategy	Accountability Measure	Timeline
5A. The District will review and update this Technology Plan on a yearly basis as appropriate.	 Each year, the District Technology Advisory committee will review the appropriateness and completeness of the Technology Plan's objectives and revise the objectives as appropriate. Review the Technology Plan's accountability measures in order to assess progress on the Technology Plan's strategies and update the Technology Plan as appropriate. 	 Meeting agendas. Updates to Technology Plan. 	Annually
5B. The District will provide access for students to take on-line tests as they are implemented by the CSDE.	 Maintain improved inventory procedures in order to submit accurate data on the district's technology resources to the state on Form ED 165. The District will develop and implement a plan for students to take on-line tests as they are implemented by the CSDE. 	 Completed Forms ED 165 based on field verified inventory. As needed, the plan to implement on-line testing. 	2009 - 2012 When on-line testing is implemented.
5C. The District will provide technology professional development for educators on the use of assessment data for improving instruction and learning.	 Strategy also supports Objective 5F Provide technology professional development for educators on the use of assessment data and Data Driven Decision Making for improving instruction and learning and to support the implementation of RTI/SRBI. 	Annual list of technology professional development offerings.	Ongoing

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Objective	Strategy	Accountability Measure	Timeline
5D. The District will provide the technology resources needed to meet its administrative needs.	 Strategy also supports Objective 3A, 4E, and 6A. Continue to implement Board of Education Policy 3511 Educational Technology Maintenance that sets the minimum funding levels for the District Technology Equipment Budget at 0.5% of the total approved 1 local school budget. Strategy also supports Objective 3C Maintain improved inventory procedures for equipment and software to inform the allocation of resources for new technology and the removal of outdated technology 	 Funding levels in Adopted Budget. Technology equipment and software inventory data reports. 	Ongoing
5E. The District will effectively utilize technology resources to meet its administrative needs.	Strategy also supports Objective 3C The district and town will pursue automated information interoperability among its financial data base (currently Munis), personnel data base (currently Munis), email database (currently Groupwise), public directory information, security information database (currently WinDSX), cafeteria system (currently Meal Tracker Pro), student information system (currently Pinnacle), special education database (currently IEPPLUS), emergency notification systems (currently under consideration), and library database (currently Destiny). Strategy also supports Objective 3C The district will pursue the use of information interoperability between the personnel data base (currently Munis) and the email database (currently Groupwise) to automate the formation of shared email groups.	 Copy of an interoperability plan that tracks the degree of interoperability among the various databases. The purpose of this plan is to identify the stake holders for software purchases or upgrades and inform any software purchase or upgrade. The plan and relevant stakeholders will be consulted. After each software purchase or upgrade, the plan will be updated and distributed to the individuals responsible for all of the databases. The availability of shared email groups based on personnel data base. 	2009 - 2012 2009 - 2012
	Develop an employee intranet website as a vehicle to improve internal communication	 List of documents and information available to employees on the website. 	2009 - 2012
	Post on websites digital copies of current forms, directives, procedures and other useful information.	Availability of digital forms on website.	2009 - 2012

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Objective	Strategy	Accountability Measure	Timeline
	• Continue to expand our use of our student information system to track, predict, and improve student achievement. Strategy also supports Objective 5C	 Tri-annual benchmark meetings with the Assistant Superintendent of Curriculum and Instruction. Student achievement/classroom data reports 	Ongoing
5F. The District will identify and implement technology initiatives to	 Provide technology professional development for educators on the use of assessment data and Data Driven Decision Making for improving instruction and learning and to support the implementation of RTI/SRBI. Fully implement Microsoft Active 	Annual list of technology professional development offerings.	Ongoing
improve student achievement.	Directory at Bennet Academy, Illing Middle School, and Manchester High Schools. • Upon implementing Microsoft Active	Report on implementation of Microsoft Active Directory.	2009-2010
	Directory, provide technology professional development for educators on the use of digital student portfolios to longitudinally track student progress from Bennet Academy through Manchester High School.	Annual list of technology professional development offerings.	2011-2012

Goal 6: Develop a schema of current and future financing requirements to support the LEA's Technology Plan.

The CSDE Technology Plan Template requires the objectives of the plan that support this goal:

- o Describe how the District will meet current and future funding requirements to support plan implementation;
- Describe how the District will develop policies and procedures related to maintenance of hardware, software, infrastructure and security; and
- o Describe how the District will meet current and future funding requirements to keep the technology updated.

Objective	Strategy	Accountability Measure	Timeline
	 Strategy also supports Objective 3A, 4E, and 5D. Continue to implement Board of Education Policy 3511 Educational Technology 	• Funding levels in Adopted Budget.	Ongoing
6A. The District will provide the funding required to	Maintenance that sets the minimum funding levels for the District Technology Equipment Budget at 0.5% of the total approved local school budget. • Continued budgetary support by the Board of Education for the District's Information Systems Department, for supervision of educational technology, and for the town's administration of the network.	• Funding levels in Adopted Budget	Ongoing
implement this Technology Plan.	 Capital plans will support the integrated three year and five year strategic technology plans of the school district and town. 	• Funding levels for technology in Adopted Capital Budgets	Ongoing
	• Inclusion of sufficient funds in the Furniture Fixtures, and Equipment budgets of school capital improvement projects to update the school's educational technology.	• Funding levels in Adopted Capital Budgets	Ongoing
	 Continued support by the Board of Directors for a town Information Systems staff capable of providing Network Engineering work and support for Manchester's town-wide networks. 	• Funding levels for Town Information Systems Department in Adopted Town Budget	Ongoing

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Objective	Strategy	Accountability Measure	Timeline
6B. The District will develop and maintain policies and procedures for the maintenance of hardware, software, infrastructure and security.	 Continue to have a District Technology Advisory Committee to provide guidance on the assessment and update polices and procedures for the maintenance of software, infrastructure, and security. Continue to cooperate and collaborate with the Town Information System Department on polices and procedures for the maintenance of software, infrastructure, and security. The District will develop written procedures that identify the processes and procedures for administering the filtering of 		Ongoing Ongoing 2009 2012
6C. The District will provide the resources required to keep its technology updated.	 Internet content. Strategy also supports Objective 3B. Maintain technician-to-computer ratio at the state and national standards to ensure sufficient and timely technology maintenance and support. Keep support contracts up to date for critical hardware, software, and fiber net. 	 Annually compute the computer-to-technician ratios by building assignments and for the district. Copy of support contracts. 	Ongoing

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Goal 7: Develop a telecommunications services plan that will support both instructional needs and administrative requirements.

Since Manchester is a public schools district that receives NCLB related funding, its telecommunication plan must address the following three standards to qualify for participation in the E-Rate Program:

- A. An assessment of the telecommunications services that will be needed to improve education.
- B. Clear goals and a realistic strategy for using telecommunications and information technology to improve education.
- C. A sufficient budget to acquire and support the non-discounted elements of the plan (e.g. the hardware, software, professional development and other services that will be needed to implement the strategy.

The summary below indicates the other goals and objectives of this Educational Technology Plan whose strategies help to address the three telecommunication standards.

- A. The telecommunications services needed for the District's instructional and administrative needs are identified in
 - Goal 1: Improve student academic achievement through the use of technology in elementary and secondary schools.
 - Objective 1D: The District will provide technology resources that reflect scientifically-based best practices for improving student achievement.
 - Objective 1E: The District will encourage the use of technology-based distance learning for the delivery of specialized or rigorous academic courses and curricula.
 - Goal 3: Ensure that all PreK-12 educational institutions have the capacity, infrastructure, staffing, and equipment to meet academic and business needs for effective and efficient operations.
 - Objective 3A: The District will ensure all facilities meet minimum standards of technology infrastructure and provide connectivity to the Connecticut Education Network (CEN).
 - Objective 3B: The District will provide continued maintenance and support of its existing infrastructure and end-user technology.
 - Objective 3C: When acquiring new technology, the District will maintain technological interoperability.
 - Goal 4: Ensure that PreK-12 resources are available for all students, regardless of race, ethnicity, income, geographical location, or disability, so they can become technologically literate by the end of eighth grade and achieve their academic potential.
 - Objective 4E: The District will provide equitable access to technology for all students, teachers, staff and administrators.
 - Goal 5: Develop a continuous process of evaluation and accountability for the use of educational technology as: a teaching and learning tool, a measurement and analysis tool for student achievement, and a fiscal management tool.
 - Objective 5A: The District will review and update this Technology Plan on a yearly basis as appropriate.
 - Objective 5B: The District will provide access for students to take on-line tests as they are implemented by the CSDE.
 - Objective 5C: The District will provide technology professional development for educators on the use of assessment data for improving instruction and learning.
 - Objective 5D: The District will provide the technology resources needed to meet its administrative needs.
 - Objective 5E: The District will effectively utilize technology resources to meet its administrative needs.
 - Objective 5F: The District will identify and implement technology initiatives to improve student achievement.
- B. Goals and strategies for the use of telecommunications and information technology to improve education are identified in:
 - Goal 1: Improve student academic achievement through the use of technology in elementary and secondary schools.

 Objective 1A: All students will have educational opportunities to achieve academic success through the infusion of technology into curriculum and instruction.

- Objective 1B: By the end of eighth grade, all students will achieve and maintain technological literacy as defined by the National Educational Technology Standards for Students.
- Objective 1C: By the end of high school, all students will achieve and maintain technological literacy as defined by the National Educational Technology Standards for Students.
- Objective 1D: The District will provide technology resources that reflect scientifically-based best practices for improving student achievement.
- Objective 1E: The District will encourage the use of technology-based distance learning for the delivery of specialized or rigorous academic courses and curricula.
- Goal 2: Ensure that all educators are proficient in the use and integration of technology and ongoing professional development activities are provided.
 - Objective 2A: The District will provide all educators and staff with incentives to become technologically literate.
 - Objective 2B: The District will monitor staff technology literacy and use these data when planning technology professional development.
 - Objective 2C: The District will provide technology professional development that is consistent with research on effective teaching and learning.
 - Objective 2D: The District will provide technology professional development on the use of technology to improve student achievement.
- Goal 4: Ensure that PreK-12 resources are available for all students, regardless of race, ethnicity, income, geographical location, or disability, so they can become technologically literate by the end of eighth grade and achieve their academic potential.
 - Objective 4A: The District will provide students with special needs access to technology as appropriate to meet their needs.
 - Objective 4B: The District will encourage the use of technology to support equity and reduce performance gaps based on race, national origin, sex and physical or mental disability.
 - Objective 4C: By the end of eighth grade, all students will achieve and maintain technological literacy as defined by the National Educational Technology Standards for Students.
 - Objective 4D: By the end of high school, all students will achieve and maintain technological literacy as defined by the National Educational Technology Standards for Students.
 - Objective 4E: The District will provide equitable access to technology for all students, teachers, staff and administrators.
- Goal 5: Develop a continuous process of evaluation and accountability for the use of educational technology as: a teaching and learning tool, a measurement and analysis tool for student achievement, and a fiscal management tool.
 - Objective 5C: The District will provide technology professional development for educators on the use of assessment data for improving instruction and learning.
 - Objective 5F: The District will identify and implement technology initiatives to improve student achievement.
- C. The provision of the funding required to support this telecommunications and information technology plan is discussed in:
 - Goal 3: Ensure that all PreK-12 educational institutions have the capacity, infrastructure, staffing, and equipment to meet academic and business needs for effective and efficient operations.
 - Objective 3A: The District will ensure all facilities meet minimum standards of technology infrastructure and provide connectivity to the Connecticut Education Network (CEN).
 - Objective 3B: The District will provide continued maintenance and support of its existing infrastructure and enduser technology.
 - Goal 4: Ensure that PreK-12 resources are available for all students, regardless of race, ethnicity, income, geographical location, or disability, so they can become technologically literate by the end of eighth grade and achieve their academic potential.

Objective 4E: The District will provide equitable access to technology for all students, teachers, staff and administrators.

Goal 5: Develop a continuous process of evaluation and accountability for the use of educational technology as: a teaching and learning tool, a measurement and analysis tool for student achievement, and a fiscal management tool. Objective 5D: The District will provide the technology resources needed to meet its administrative needs.

Goal 6: Develop a schema of current and future financing requirements to support the LEA's Technology Plan.

Objective 6A: The District will provide the funding required to implement this Technology Plan.

Objective 6B: The District will develop and maintain policies and procedures for the maintenance of hardware,

software, infrastructure and security.

Objective 6C: The District will provide the resources required to keep its technology updated.

In addition to the objectives referenced above, the objectives beginning on the next page describe in broad terms where the District's telecommunications service is now, where we would like to be in three years, how we expect to arrive at that point. In Manchester, the Town Information Systems Department develops and maintains the fiber optic network that connects the schools to each other, to the Internet, and to the phone system. The Board of Education compensates the town government for these services. Therefore, many of the objectives and strategies for telecommunication and infrastructure are developed by the Town Information Systems Department. <u>Underlined words</u> appear in the <u>Glossary of Educational Technology, Telecommunications, and Network Vocabulary or Acronyms</u> that begins immediately following this goal.

Objective	Strategy	Accountability Measure	Timeline
	 The Town of Manchester Information Systems Department will continue to maintain the existing fiber optic network that connects to the external phone system through PRI lines at Manchester High School and the Public Safety Building. Use the town's capital equipment plan to gradually replace un-managed switches with managed switches to so the network will eventually be able to support Internet Protocol Version 6. 	 The reliable and stable connection to CEN using our existing network as measured by the absence of down-time. Inventory of managed and unmanaged network switches. 	Ongoing
7A. Provide a	 Maintain and develop information systems standards for the town, public safety, and the Board of Education to ensure interoperability of technological applications such as wireless access, web cam controls, card entry security, server backup/restore systems, heating, and ventilation and air-conditioning (HVAC) controls. 	Written statements of information systems standards.	Ongoing
secure high speed broadband fiber optic	• Ensure that systems standards are reflected in the construction specifications of all capitol projects.	• Inclusion of information systems standards in actual construction specifications.	Ongoing
network that connects all municipal and	• Introduce virtualization of the many network servers to address technology management, catastrophic backup/recovery and cost controls.	_	As funds allow.
Board of Education facilities to each	• Improve integration of e-mail, voice and multi-media systems with other technology systems.	Actual improvement in e- mail integration.	2009-2012
other and to the Internet.	 Re-evaluate the ten year old decision to standardize on the GroupWise e-mail and calendaring system for all personnel in the School District and Town Departments. Continue collaboration and training sharing between Town and Board of Education Information Systems 	 Report evaluating the suitability of Groupwise for technological interoperability. Annual list of shared training sessions. 	2009-2012 Ongoing
	departments.Ensure that all future implementations of wireless network access in public buildings use Alcatel	List of wireless network access in public buildings	Ongoing
	 OmniAccess technology Constantly update network security, telecommunication technology, and desktop computer management to continuously address ever changing threats to the productive use of technology. 	that use OmniAccess. The absence of successful external threats to network security.	Ongoing
	Work to expand the implementation of <u>Microsoft</u> <u>Active Directory</u> to all school buildings.	• Annual list of school buildings with MS Active Directory.	Ongoing

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Objective	Strategy	Accountability Measure	Timeline
7B. Expand the use of IP Telephony from its current use at the Manchester Police Department, Manchester Public Libraries, Manchester High School, and Bennet Academy to other Board of Education and municipal facilities.	building as part of the capital budget funding the construction project.	 Actual inclusion of <u>IP</u> <u>Telephony</u> in the Head Start construction project. Actual inclusion of <u>IP</u> <u>Telephony</u> in the Highland Park renovation project. Annual report that updates the list of Board of Education and municipal facilities using <u>IP</u> <u>Telephony</u>. 	2009-2010 2009-2011 2009-2012
7C. Support the Town Information Systems Department's efforts to provide town residents with free access to the Internet and to technology.	 Re-connect public Wi-Fi access for the southern end of downtown Main Street at Bennet Academy that was disabled during the school's renovation. Maintain the direct fiber-optic link between Manchester Community College network and the Town of Manchester's network. Continue to implement municipal wireless Internet access throughout the Manchester Community College Campus. Seek sources of funding for providing public access to the Internet including future use of WiMAX or LTE. 	Actual availability of public Wi-Fi access at the south end of downtown Main St.	2009-2012
7D. The Town Information Systems Department seeks to implement fiber optic connections among the networks of municipalities and school districts to create opportunities for regional collaboration and efficiencies.		Actual municipal access to <u>CEN</u> .	2009-2012

Glossary: Educational Technology, Telecommunications, and Network Vocabulary or Acronyms

- **BICC** (Broadband Internet Coordinating Council) was created by the Connecticut Legislature to monitor developments in the state's efforts to develop a statewide, world-class communications infrastructure and issue any reports it deems necessary to the Energy and Technology Committee.
- CEN (Connecticut Education Network) is a fiber-optic network built to provide very-high-speed access to the Internet for every K-12 school district and higher education campus in Connecticut as well as many public libraries. It also provides other services exclusively targeted to students, teachers, researchers, and administrators in Connecticut's education including iCONN, multimedia learning resources, research tools, and online administrative activities.
- CIPA (Children's Internet Protection Act) is a federal law requiring that all schools and libraries that participate in the E-rate funding program must: a. Filter Internet access on all Internet-enabled computers whether used by minors or adults for visual depictions deemed obscene, child pornography, or harmful to minors, b. Educate minors about appropriate online behavior, including cyber-bullying awareness and response and interacting with others on social networking sites and in chat rooms, c. Monitor the on-line activities of minors, d. Address unauthorized access including "hacking", and other unlawful on-line activities by minors, and e. Address unauthorized disclosure or use of minor's personal identification information.
- CRCOG (Capitol Region Council of Governments) is a regional planning agency representing 29 central Connecticut municipalities including Manchester. It identifies and implements regional projects for the benefit of its member municipalities.
- CCM (Connecticut Council of Municipalities) is a statewide association of towns and cities that represents 144 of Connecticut's 169 municipalities. It represents the interests of municipalities and provides a wide array of services to its members.
- **Desktop computer management** is the ability to manage the computers on a network through the network rather than having to physically go to each computer.
- **DOIT** (Connecticut Department of Information of Technology) administer computer technology for all Connecticut State Government agencies.
- **E-Rate** funding program is part of the federal Telecommunications Act of 1996 that reimburses participating schools and libraries for between 20% and 90% of their costs for "telecommunications services, Internet access, basic maintenance, and internal connections.
- **iCONN** provides online access to essential library and information resources (including many on-line resources that require a paid subscription) to all Connecticut schools and to Connecticut residents with a public library card.
- **Interoperability** is the ability of two or more applications, systems, or components to exchange information and to use the information that has been exchanged.
- **IP** (Internet Protocol) is a way of organizing digital information so that packets of data can be routed through a network.
- **IPv6** (**Internet Protocol version 6**) is a more robust operating system that increases the number of possible addresses that can be specified.
- **IP Telephony**, also known as **VOIP** (Voice Over Internet Protocol), provides digital phone service over data networks using the Internet Protocol (IP).
- **ISDN** (Integrated Services Digital Network) is a phone system that uses digital (as opposed to analog) signals to carry phone service.
- LTE ((Long Term Evolution) is a yet-to-be-implemented cell phone network that is essentially a wireless broadband Internet system that includes voice and other services.
- Microsoft Active Directory provides a variety of network services. It stores network information and settings in a central database and allows administrators to assign policies, deploy software, and apply critical updates to an organization.
- OmniAccess technology manages and secures wireless networks providing application-aware security, wireless intrusion protection, user mobility, location tracking and bandwidth management.
- **PRI** (Primary Rate Interface) also known as ISDN-PRI, is a digital phone line for industrial or large quantity customers that is set up to simultaneously carry 23 different voice or data transmissions. Manchester's fiber optic network connects to the external phone system through PRI lines at the high school and at the police department.

- Wi-Fi is commonly used to mean any WLAN (wireless local area network) which uses radio waves to connect computers to the Internet through a wireless access point or wireless router.
- WiMAX (Worldwide Interoperability for Microwave Access) uses radio waves to create a point-to-point connection to the Internet from an ISP to an end user. WiMax is primarily for wireless metropolitan area networks (WMANs), with a transmission range of a few kilometers.

Technology Funding Sources and Costs

The CSDE Technology Plan Template specifies the District's plan use the tables below to create a technology budget summary for each of the next three years. Each budget summary must, at a minimum, list the professional development and technologies to be acquired during each year of the agency's plan. The CSDE Technology Plan Template specified the budget summaries should assume that Title II D funding will remain flat. Each summary estimates the cost of the professional development and technologies in the column(s) from which the District intends to take the funds.

The CSDE Technology Plan Template also specifies the District's plan must include the following description of how the Districts coordinates the other federal, state, local funds with the District's consolidated plans and/or individual school's School Improvement Plans.

- The Assistant Superintendent for Curriculum and Instruction coordinates the planning and expenditure of the Title
 Grants with the District and Individual School Improvement Plans and with other funding sources.
- The Assistant to the Superintendent for Finance and Management coordinates the planning of capital budget projects, the general fund, and other grant funds with other funding sources.
- The District Supervisor of Educational Technology coordinates the expenditure of the district-wide technology equipment budget with the District Improvement Plan upon the advice of the District Technology Advisory Committee.
- The Supervisor of Information Systems for the District and the Town Chief Information Officer each coordinate the
 planning and expenditure of their Information Systems general fund budgets with district and town plans and other
 funding sources.
- School Principals coordinate the expenditure of their per-pupil technology funds with their School Improvement Plan upon the advice of the School Technology Committee.

Annual Budget Summary Year _____

Acquired Technologies and Professional Development	Ed Tech Competitive Title II-D	Ed Tech Formula Title II-D	State Bond Funds	Capital	E-Rate	NCLB/other than Title II-D (Title I, Title IIA)	Other (Specify) Manchester Public Schools General Fund
Professional Development		\$5,600				\$6,000	\$6,000
Software and Equipment						\$44,000 Title I Schools	\$476,831 District Tech Equip
Telecommunications Services					\$110,000		\$65,480
Building Project Infrastructure and Equipment			\$69,585 Head Start	\$40,867 Head Start			
TOTAL		\$5,600	\$69,585	\$40,867	\$110,000	\$50,000	\$544,311

The dollar amounts above are estimates based on level-funding projections and un-verifiable assumptions.

2009-2010

Year 2010-2011

Acquired Technologies and Professional Development	Ed Tech Competitive Title II-D	Ed Tech Formula Title II-D	State Bond Funds	Capital	E-Rate	NCLB/other than Title II-D (Title I, Title IIA)	Other (Specify) Manchester Public Schools General Fund
Professional Development		\$5,600				\$6,000	\$6,000
Software and Equipment						\$44,000 Title I Schools	\$476,831 District Tech Equip
Telecommunications Services					\$110,000		\$65,480
Building Project Infrastructure and Equipment			\$75,600 Highland Park	\$175,400 Highland Park			
TOTAL		\$5,600	\$69,585	\$40,867	\$110,000	\$50,000	\$544,311

The dollar amounts above are estimates based on level-funding projections and un-verifiable assumptions.

		~
Annual	Budget	Summary

11-2012

Acquired Technologies and Professional Development	Ed Tech Competitive Title II-D	Ed Tech Formula Title II-D	State Bond Funds	Capital	E-Rate	NCLB/other than Title II-D (Title I, Title IIA)	Other (Specify) Manchester Public Schools General Fund
Professional Development		\$5,600				\$6,000	\$6,000
Software and Equipment						\$44,000 Title I Schools	\$476,831 District Tech Equip
Telecommunications Services					\$110,000		\$65,480
Building Project Infrastructure and Equipment							
TOTAL		\$5,600			\$110,000	\$50,000	\$544,311

The dollar amounts above are estimates based on level-funding projections and un-verifiable assumptions.

Children's Internet Protection Act (CIPA) Certification

Schools and libraries that plan on receiving E-Rate discounts on Internet access and/or internal connection services after July 1, 2002, must be in compliance with the CIPA. CIPA compliance means that schools and libraries are filtering their Internet services and have implemented formal Internet safety policies (also frequently known as Acceptable Use Policies). Information on the CIPA requirements is located at http://E-Ratecentral.com/CIPA/cipa_policy_primer.pdf.

I, Kathleen Ouellette, Ed.D, certify that one of the following conditions Name of Superintendent/Director	(as indicated below) exists in
Manchester Public Schools LEA	
✓ My LEA/agency is E-Rate compliant; or	
My LEA/agency is not E-Rate compliant. (Check one additional bo	ox below):
Every "applicable school*" has complied with the CIPA requireme of the ESEA**.	ents in subpart 4 of Part D of Title II
Not all "applicable schools*" have yet complied with the requirement II of the ESEA**. However, the LEA has received a one-year waire Education under section 2441(b)(2)(C) of the ESEA for those applications compliance.	ver from the U.S. Secretary of
The CIPA requirements in the ESEA do not apply because no fund are being used to purchase computers to access the Internet, or to p accessing the Internet, for elementary and secondary schools that d the Communications Act of 1934, as amended.	ay for direct costs associated with
*An applicable school is an elementary or secondary school that does <i>not</i> r which Ed Tech funds are used to purchase computers used to access the Intersection associated with accessing the Internet.	
** Codified at 20 U.S.C. § 6777. See also,	

Appendix A: Technology Plan Review Guide

Technology Plan Review Guide
Reviewer Joe Fromme LEA Manchester Public Schools

Complete?

	(Y/N)	additional information required/comments
LEA Profile	Y	
Technology Committee	Y	
Needs Assessment	Y	
Goal 1	Y	
Goal 2	Y	
Goal 3	Y	
Goal 4	Y	
Goal 5	Y	
Goal 6	Y	
Goal 7	Y	
Goal 8		
Technology Funding Sources	Y	

I verify that Manchester Public Schools has successfully completed all of the Name of LEA

requirements as stated in the CSDE Technology Plan Template.